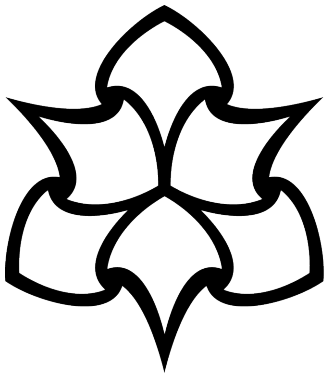

4

The Missing 'E': Radical Embodied Cognitive Science, Ecological Psychology and the Place of Ethics in Our Responsiveness to the Lifeworld

Phil Hutchinson

Cognitive science as an interdisciplinary movement is undergoing something of a change. After fifty years of being dominated by Cartesian representationalism, recent years have witnessed a rising interest in alternative approaches, which emphasise the embodied, embedded, extended and enacted nature of mind-world relations and our responsiveness to loci of significance in our environment. These approaches have been, variously, referred to as 4E cognition (Menary, 2010), 'The New Science of the Mind' (Rowlands, 2010), simply as Enactivism (Stewart, Gapenne, & Di Paolo, 2010), including its radical variant, Radical Enactivism (Hutto & Myin, 2013) and as Radically Embodied Cognitive Science (Chemero, 2009). The interest in such approaches has generated renewed interest in Ecological Psychology and the theory of affordances (Gibson, 1979; Heft, 2001; Chemero, 2009; Van Dijk, Withagen, & Bongers, 2015), which also emphasises the embodied, embedded, extended, and enacted nature of mind-world relations,

P. Hutchinson (✉)
Manchester Metropolitan University, Manchester, UK
e-mail: p.hutchinson@mmu.ac.uk

J. Backström et al. (eds.), *Moral Foundations of Philosophy of Mind*,
https://doi.org/10.1007/978-3-030-18492-6_4

while rejecting representationalism. Indeed, increasingly one now finds work which advances a theory of affordances by drawing on Enactivism and Dynamical Systems Theory (e.g. Chemero, 2009, chap. 7.6) and amalgam, or Frankenstein, theories, which comprise of a theory of affordances and enactivist insights while also, somewhat oddly, retaining talk of representations (e.g. Hufendiek, 2016, chap. 5), including by those, such as Jesse Prinz, who until recently had been high-profile standard bearers for traditional Cartesian representationalist computational theorising about cognition (see Shargel & Prinz, 2018; and contrast with: Prinz, 2003).

So, what gives? Is this a new dawn, one which promises to accommodate those who have remained opposed to the programme of cognitive science? Or is it a case of more of the same?

Well, first we'd do well to tease-out some of the differences, for there are a range of views which, as Menary (2010) points out in his introduction to a journal special edition on 4E cognition, mean that there is little homogeneity here. For, on the conservative wing of 4E approaches we find Andy Clark, who accommodates representationalism and functionalism, and is happy to endorse weak cognitivism (see Menary, 2010, p. 460), in addition to those such as Hufendiek (2016) and Shargel and Prinz (2018) who appropriate the language of affordances and Enactivism while still talking of representations. In contrast, on the radical wing we find those who *all-but* completely reject representations such as Hutto and Myin (2013) and Chemero (2009) in addition to traditional Gibsonian Ecological Psychologists such as Harry Heft (2001). In what follows I will not be interested in weak cognitivist 4E approaches. I'm interested here in the genuinely radical alternatives to traditional, Cartesian representationalism. The alternative I will focus on here, therefore, will be Anthony Chemero's work, which amounts to a sophisticated, contemporary attempt to update the theory of Affordances by incorporating Dynamical Systems Theory that emerges out of Enactivism, with the aim of providing a genuinely radical alternative to Cartesian representationalism.

Before I progress, a note of clarification regarding my objectives in this paper. I do not here seek to provide a definitive critique of representationalism. Rather, my starting point is that there is increased interest in alter-

natives to representationalism within the community of cognitive scientists. I seek only to explore some of the reasons why researchers are looking for alternatives to representationalism, and I do so merely as a precursor to examining one of the candidates for an alternative: Chemero's Radical Embodied Cognitive Science. Furthermore, my criticisms of Chemero should not to be taken as defences of or a reason to return to representationalism. Far from it. I agree with Chemero (and Hutto and Myin) that representationalism should be rejected. My disagreement, if there ultimately turns-out to be one, is on how best to conceive of a viable alternative to representationalism.

1. Cartesian Representationalism

Since its origins as an interdisciplinary research programme, cognitive science has operated within the Cartesian tradition. One way to see how this pans out is to look at the way in which traditional cognitive science answers the question as to how we respond to loci of significance in our environment. The cognitivist's way is to propose that such loci of significance have causal impact on our senses, which trigger mental representations (we might talk of elicitation files with semantic content here), that semantically represent a specific locus of significance in the form of a proposition. On this view, the meaningful content of our thoughts does not reside in the loci of significance, but is *inferred* from the sensations triggered by the causal impacts issuing from those loci of significance; on this view, the meaning the world has for us is not 'out there' in the world, beyond our skin, but in the head, in some sense. Variations on this view have dominated cognitive science for the past fifty years and the programme set itself the task of providing a scientific explanation, often drawing upon computational metaphors, framed by this philosophical account. However, after 50 years, it seems increasingly clear that representationalist-cognitivism has failed to establish itself as (Kuhnian) normal science.

This is, perhaps, a controversial claim, so what warrants it? Well, it is this: Representationalist Cognitive Science is still at the pre-paradigmatic phase because, as its many detractors have pointed out and the practices of its practitioners so often demonstrate, representationalism cannot

overcome the problems it faces without repeatedly bringing into question its philosophical foundations. For example, in the area of primate cognition Louise Barrett (2011) has demonstrated how representationalism distorts the research findings. Similarly, Evolutionary (or 'Sussex') robotics led numerous researchers to reject representationalism and advocate alternative, phenomenological foundations; see, for example, Di Paolo (2003), among others. Normal science proceeds without having to perpetually refer back to, tinker with, and revise its philosophical foundations. (Representational) Cognitive science simply cannot plausibly claim to be normal science because such a big part of the job of the cognitive scientist is still concerned with revision and arguments in defence of the under-siege philosophical foundations. Let's take time to consider some reasons why.

2. Challenges to Representationalism: Rejecting Internalism

In his 2002 book on the Philosophy of Mind, *Externalism*, Mark Rowlands (Rowlands, 2002) takes the reader on a tour of many of the Twentieth Century's philosophical arguments against internalism and for content externalism in the Philosophy of Mind. The tour ranges from Sapir-Whorf, Thomas Kuhn and Putnam-Burge Twin-Earth arguments, to Husserl, Sartre, Heidegger and Wittgenstein. It is beyond the scope of this chapter to rehearse all of the arguments against content internalism, or even those which Rowlands discusses in the first six chapters of his book, I'll simply illustrate why we might reject the representationalist picture by invoking one argument, which is traceable back to Wittgenstein (and, on some readings, Frege) and which one finds most clearly argued in the work of radical contextualist philosophers of language, such as Avner Baz (2012), Frank Ebersole (2002), Lars Hertzberg (2001) and Charles Travis (2008). I focus on this particular argument because elements of it are relevant when we come to appraise contemporary non-representational arguments later in the chapter.

2.1. A Radical Contextualist Challenge to Content Internalism and Representationalism

The problem for representationalists, as radical contextualist philosophers state it, is as follows: representations are theorised as being internally located and propositional in form, such that we *represent the world in a thought which has propositional form*. However, the problem is that propositions shorn of context, as they are when abstracted from their use by people, in contexts and on occasions, as they are when they are psychosemantic propositions, residing in modules and elicitation files, fail to represent and they are indeterminate with regards to the worldly events they putatively represent. Let us consider some of the examples one finds discussed in such work.

Imagine one person telling another 'there is coffee on the table'. Or, if you prefer, 'milk in the fridge'. In both cases, the propositional, or semantic content that one might attribute to the proposition, separated from an occasion of use, falls short of representing the relevant content which that proposition has when employed by a person with interests, on an occasion and in a context. For example, 'there is coffee on the table' taken as this string of words, but without specifying an occasion of use, might include the dried, spilt coffee on the table. It might include the two-day-old dregs of coffee in the cup on the far end of the table, left there by John on Tuesday. And it might include the several cups of freshly brewed coffee, which have already been poured and distributed to those already sat round the table. However, if this sentence is uttered to you, as you arrive for the breakfast meeting, you know that the coffee referred to in the statement does not include the spilt, dried coffee, it doesn't refer to the two-day old dregs and nor to the coffee already given to your colleagues who arrived before you. You look for the coffee pot. The dried, spilt coffee, the two-day old dregs, and the cups of coffee in possession of colleagues only come into play as *possible* referents when we merely focus on the statement as a linguistic item, as philosophers and cognitive scientists are wont to do, and as it is when posited as psychosemantic mental representation, in abstraction from the actual contexts in which such statements are made.

To illustrate further, let's consider Charles Travis's milk example (Travis, 1989, p. 156) and Avner Baz's discussion of it (Baz, 2012, p. 142). Travis tells us that Hugo, who we are told is engrossed in a paper, remarks to Odile

> "I need some milk for my coffee". Odile replies, "You know where the milk is". Suddenly defensive, Hugo replies: "Well, I don't really know that, do I? Perhaps the cat broke into the refrigerator, or there was just now a very stealthy milk thief, or it evaporated or suddenly congealed". (Travis, 1989, p. 156; quoted in Baz, 2012, p. 142)

The point of the example is that Hugo's reply to Odile is, as Travis remarks, not merely absurd but fails as a counter to Odile's reply. For much the same reason as me taking a cup of coffee out of my colleague's hand, having been told 'there's coffee on the table', as I arrived at the breakfast meeting, would have been absurd, Hugo's response is an absurd response when taken as a response to the sense of the utterance communicated to him on this occasion, that is to say, as a response to what Odile has *said to him*, even though, grammatically-speaking, as it were, no rules have been violated. The sense of an utterance is essentially contextual, or in Travis's terms, occasion sensitive.

This said, we can go further than does Travis here, as Avner Baz has pointed out. Travis argues that while the formal meaning of the sentence 'you know where the milk is' allows, grammatically speaking, for a response along the lines Hugo offers, the sense of the utterance, as spoken by Odile on this occasion, does not invite the kinds of counter-examples that Hugo puts forward, hence the absurdity of his response. For Travis, this demonstrates that the question as to whether utterances in response to Odile's words amount to pertinent counters or absurd mis-fires, so to speak, is only settleable in a context, on an occasion of use. The *meaning* one might claim to be formally contained in the sentence falls short of fixing the *sense* of the sentence, such that we might have the resources to draw the line between absurd and pertinent responses. Travis is surely right on this, but Baz wants to go even further. Baz argues that Odile's remark should not even be read as an attribution of knowledge, despite what the words might (mis)lead us into believing as analysts. Indeed, Baz believes Travis has himself been misled as to the real lesson that emerges from his own example, and he has been so because he still operates with

an account of formal word meaning, prior to sense-making acts of speech on an occasion. For Baz, the context Travis provides us with in laying-out the scenario in which Odile and Hugo are embedded, would suggest that Odile's remark is a rebuke rather than a statement which attributes knowledge (location of the milk) to Hugo.

Another way of stating this disagreement between Travis and Baz would be as follows: Travis, following Frege, minimally allows for words, in sentences, as having meaning in lieu of their employment by someone on some occasion, while it is the occasion which gives them sense and thereby renders them useful. One of the ways that the occasion of use, in conveying sense on our utterances, makes our words useful to us can be observed by the way that it allows us to see the line between absurd and pertinent responses. Baz goes further, he wants to fully break free of the Fregean tradition by denying formal word-meaning and focussing exclusively on the sense a sentence has in its employment by a person with interests, on an occasion, in a context. On this view, we forego the claim that certain strings of words have meaning prior to their employment, and instead see the role words play for a language user as akin to the role tools have for a craftsman, which are put to use by people, with interests and purposes, in contexts and on occasions. It is in recovering these interests and contextual factors through careful close observation of language use that we make the sense of an utterance visible to us. Another way of putting this disagreement is, perhaps, as follows: Travis wishes to argue for the primacy, and indeed essential or ineliminable role, of the pragmatic (over syntactic and semantic) contribution to the sense of an utterance. Baz wants to argue for the use, by people, in contexts, being the only factor in establishing the sense of an utterance.

There's a deeper point here too, one on which both Baz and Travis would, I believe, agree. What is lost in any formal analysis of language, where language is analysed in abstraction from its sites of use, is precisely that which is central to the sense our language has when used by us, and that is its normativity. When we see the exchange between Odile and Hugo in its context, as an exchange between these two people, we see that the sense of their utterances is inseparable from evaluative norms. Odile is rebuking Hugo because he asked her to provide him with milk in an underhand, indirect and impolite way, by stating his 'need' for milk.

Odile rebukes Hugo because she, perhaps, resents being expected to fetch the milk for Hugo, or perhaps she resents the way he 'asks' indirectly or in a way which has 'plausible deniability', by not overtly asking but instead stating a 'need' in the hope Odile, as this person with whom he has this relationship, will take the hint and meet his 'need'. What is clear is that what appears on the surface like a statement from Hugo, is in fact, when seen in context, a hint or a request which Odile understands as containing an expectation (which in turn she perhaps considers to be gendered, entitled or arrogant). In response, what might appear, formally, like a knowledge attribution by Odile, is, when seen in context, a rebuke to Hugo that draws upon Odile's evaluative perception of the event.

Now, the temptation to which many succumb when confronted by such examples and analyses, is to suggest this is all window-dressing, and that the meaning is contained in the words or sentences. However, if we pursue this line of argument we ultimately ignore the actual sense of the exchange between Odile and Hugo, and we therefore ignore what it is they are doing. Any discussion we then have about their words and using their names as 'speakers' of those words becomes a discussion which is not about Odile and Hugo or *this* exchange but actually an unrelated discussion about the interests of the analyst.

So, things don't look good for representationalism. Content is simply not available in abstraction from the use people make of language in contexts and on occasions. Propositions do not represent; they simply cannot do the work representationalists demand they must, as internally-located bearers of content, because they can't represent, because they do not have sense, in abstraction from being put to use in a context by a specific person with interests, on an occasion.

To summarise, the arguments put forward by radical contextualists such as Travis and Baz, and particularly those of Frank Ebersole, suggest that propositions, as units of analysis, do not bear content in abstraction from their being embedded in the practice of language use, on occasions and in specific contexts, by language-using members of a social order, who themselves have learned to use the language as part of their process of maturation and enculturation. Moreover, when we analyse language-in-use, we find that the sense that language has is not purely descriptive or epistemic, but that it plays normative and evaluative roles. Moreover,

the normative and evaluative are not separable from the descriptive. As Hilary Putnam once put it, it is a 'fallacy of division' to believe you can separate the normative from the descriptive, 'Describing and evaluating are simply not independent in that way.' (Putnam, 1992, pp. 350–1). So, representationalism seems to demand of language a number of things observation of language use shows it doesn't offer: it demands 1. that propositions taken as discrete linguistic items represent the world, or states of affairs in the world, which is something that in abstraction from their use by members of a social order, on occasions, in contexts, they cannot do, and 2. it demands that we understand language as in essence serving this representational purpose, hence justifying the exclusive focus on propositions, and the exclusion of the normative and evaluative role language has. The work of Travis, Baz and Ebersole, in addition, I would argue, to the pioneering work of Harold Garfinkel and Harvey Sacks, show the error in such a stance.

2.2. The Question of Process Internalism

If the arguments of the radical contextualists are valid, as I believe they are, then contextual factors, the social practices in which language is embedded, are an essential, ineliminable, part of what we do with that language; moreover, the descriptive or representational role language might play is not separable from the normative and evaluative roles. The desire to surgically extract propositions from language use, put them in the head or behind the skin so as to build a representational theory of cognition upon them, is akin to the baker trying to extract the egg from the cake because they need more eggs to glaze the cake. So much, so bad, for content internalism and propositionality.

So, I agree with Rowlands about the prospects for content internalism, in light of such arguments. However, what interests me equally are not so much the arguments which Rowlands advocated in his 2002 book, but the argument from which he was keen to distance himself. For, while advocating content externalism, Rowlands was keen on ensuring his reader did not take his target to be the status of mental *processes*. For while much of Rowlands' book is devoted to arguing that the content of, or the

meaning our thoughts have, is not, as Descartes and his followers assume, internal (in our heads or behind our skin) but is irreducibly external, he resists challenging the thought that the *processes* are in our heads or behind our skin. Rowlands' thought seems to be that while rejecting *content internalism* is a sound position to defend (even if still seen by many as radical), rejecting *process internalism* would just be plain wrong-headed—*we all know that it is our brains that do the processing, right?*

2.3. Rejecting 'Process' Internalism: Wittgenstein and Merleau-Ponty

What should we make of this reluctance to continue the move from rejecting *content* internalism to also rejecting, or at least questioning, *process* internalism? Denying process internalism is, even for externalist radicals such as Rowlands, a step too far it would seem, at least it was in 2002. Two thoughts sprung to mind as I read Rowland's balking at extending his critique to process internalism, both thoughts are inspired by Wittgenstein.

1. We need to be mindful of the metaphorical status of 'process' in the term 'mental process', and subject its use to interrogation. (cf. Wittgenstein, 2009, § 308)
2. We should also subject to questioning the assumption that such 'processes', if we are to use that term, must be things of which it makes sense to predicate that they are inner or outer. (cf. Wittgenstein, 2009, § 293 & 304)

Metaphors can lead us astray, as Wittgenstein puts it, they can lead us to 'predicate of the thing what lies in the mode of representation' (Wittgenstein, 2009, § 104); or, in more expansive language and drawing on the terminology of George Lakoff and Mark Johnson (Lakoff & Johnson, 2003), in employing the metaphor of 'process' we import grammatical rules from the source domain into the target domain, and these imported rules constrain us in our reflections. So, the grammatical rules to which the term is subject, when employed in its source domain, where

the term 'process' is used non-metaphorically, are carried over into the target domain, where we employ the term metaphorically, in this case, in our reflections on our ways of acting in and on, and responding to loci of significance in, the world. The result is that our reflections on our mental life and our object-involving abilities become constrained by our mode of representation, by our metaphorical employment of certain terms and the grammatical rules that they bring with them from their source domain.

This concern about the metaphorical use of 'process' constraining us because it carries-over grammatical rules from its source domain can then be put alongside our second concern, which is about the applicability of the inner-outer distinction. We can bring these two concerns together in the following proposal: let us for a moment exchange the metaphorical employment of the word 'process' for use of the word 'act' and talk instead of *mental acts*. When we talk of *mental acts* rather than *mental processes* we are less likely to be led astray and yet I can think of nothing lost. One thing we might gain in such an exchange is a clearer appreciation of the apparent senselessness of thinking in terms of the phenomena under discussion as having to be necessarily either inner or outer. Acts are not things that take place either in the head/behind the skin or external to the person, outside their head or beyond their skin. Actions are the doings of people, or, less awkwardly put: people act. The analogy we should draw upon when thinking about our mental life, we might suggest, is the organism acting in and on the world, not it's digestive organs processing food. The grammar of the term 'act' does not seem to force upon one the inner/outer question and thereby generate the problems we've discussed in this section. Thought of this way, such that we want to use the word 'process' to refer to mental acts, we are not obliged to invoke the grammatical rules they import, and thus mental processes, if we must talk this way, are not something for which it makes sense to say that they are either inner or outer.

The forgoing reflections are inspired by Wittgenstein, but there are other routes by which one might get here and arrive at the conclusion that commitment to process internalism should be rejected along with the commitment to content internalism. Indeed, I began this chapter by drawing attention to the turn to the New Sciences of the Mind, the 4E approach, Ecological Psychology and Enactivism. We might note that all

of these emerge out of phenomenologically-informed critiques, with the work of Merleau-Ponty being the most widely, though not exclusively, cited by those offering alternatives to the Cartesian tradition: e.g. the aforementioned Lakoff and Johnson cite Merleau-Ponty as a chief influence in their book *Philosophy in the Flesh* (Lakoff & Johnson, 1999), the father of Ecological Psychology, James Gibson, was influenced by, and Ecological Psychology has evolved, developed and been defended against critics by drawing on, Merleau-Ponty (Heft, 1989, 2001; Glotzbach & Heft, 1982; Costall, 2003, p. 321), and the Enactivist movement in its origins, in Varela, Thompson, and Rosch's book *The Embodied Mind* (1991) was also heavily influenced by Merleau-Ponty (see for example Hutto, 2013, n. 1).

If we put these considerations about the status of mental acts alongside those rehearsed with clarity by Rowlands regarding content externalism, then we see how the philosophical foundations of traditional representationalist cognitive science become seriously philosophically destabilised. For representationalists, operating within the Cartesian tradition, mental *processes* are theoretically postulated computational processes, which process input to produce contentful representations, which have propositional form.

2.4. Empirically-Discerned Philosophical Objections to Representationalism

So much for the *philosophical* arguments against traditional representational cognitivism. When one looks to empirical work, the news for representationalists isn't much better, for in addition to the philosophical deflation of the requirement to theorise inner representational mental processes we also find objections emerging from robotics labs (Brooks, 1999; Wheeler, 2005, chap. 8) and primate research (see for example Barrett, 2011). These authors cite empirical areas of research which serve to demonstrate the inability of the representationalist programme to accommodate the empirical data, without bringing into question its foundational philosophical assumptions. It is important not to draw too-firm a distinction between these empirically-inspired objections and

the philosophical arguments of the previous sections. Louise Barrett's (Barrett, 2011, 2018) work on primate cognition is empirically grounded and informed but leads her to question the representationalist philosophical assumptions that permeate the field and to recommend an alternative, Wittgensteinian, philosophical approach and advocate Radical Enactivism. Michael Wheeler's work on Evolutionary Robotics (Wheeler, 2005) emerges from empirical research in robotics labs, which leads him to question representationalist philosophical assumptions and to recommend an alternative, Heideggerian, philosophical approach which has been incorporated into recent work in Ecological Psychology (see Chemero, 2009) and Enactivism. Ezequiel Di Paolo's work on Evolutionary Robotics (Di Paolo, 2003) emerges from empirical research in robotics labs, which leads him to question representationalist philosophical assumptions and to recommend an alternative, Merleau-Pontyan, philosophical approach and advocate Enactivism (Stewart et al., 2010).

2.5. Paradigm in Crisis or Pre-Paradigm Stage?

It is tempting, therefore, to depict representationalist cognitive science as a paradigm in crisis. For it is one thing to have philosophers employ deflationary arguments which serve to show internalism is at best non-obligatory and at worst senseless, but another to find that your theory faces epistemological crises in domains which should be the sites of its greatest success, such a robotics labs and primate cognition, and which lead those working in these fields to question the foundational philosophical assumptions of the programme. Cognitive science is, therefore, not a paradigm in crisis, but a loosely tied-together programme of research which has failed to establish itself as normal science, and which is, therefore, in Kuhnian terms, still in the pre-paradigmatic phase. It might be that to achieve the status of normal science, to achieve paradigm status, cognitive science must switch-out its Cartesian assumptions and replace these with philosophical insights which draw on Wittgenstein (e.g. Hutto, 2013), Heidegger (e.g. Wheeler, 2005), or Merleau-Ponty (e.g. Gibson, 1979; Varela, Thompson, & Rosch, 1991).

Will it be enough to switch-out one philosophical framework for another? Will this give us a science of the mind, or might we find that the critiques we've seen counting against Cartesian representationalism cut deeper? Before we address this question in the context of Ecological Psychology, let's briefly consider the historical roots of the philosophical traditions we're discussing.

3. Two Philosophical Traditions: Aristotelianism and Cartesianism

Before we consider ecological psychology in more detail, let's reflect a little more on the mind from a philosophical perspective. Something happens in the course of the history of Western philosophy, such that thinking of matter and soul, or body and mind, as distinct substances becomes the norm. The standard, textbook, story is that this happens with Descartes, but I think this story is wrong, to a large extent. One might argue that in Ancient Greek thought one found a kind of prefiguring of Modern dualism in Plato, while Aristotle provided an alternative monist account. With the rise of Christianity and theological renditions of Aristotle's philosophy, Aristotelian monism is corrupted. The Aristotelian monist alternative to Platonic thinking, in Christian guise, becomes itself rendered in to a pre-Cartesian substance dualism of body and spirit, in Aquinas, for example, motivated by the Christian theologians' desire to separate the earthly body from the divine soul (see, e.g. Kenny, 1989). The modern era, for which Descartes is the towering figure in the Western philosophy of mind, therefore fails adequately to break free from the Christian corruption of Aristotelian monism. If we return to Aristotle, what we see is mind or soul not depicted as distinct from matter, but rather conceived of *as matter with particular form*. So, on this (uncorrupted) Aristotelian monist conception, the human mind simply is matter with human form, which, in virtue of this form, exhibits a particular set of objecting-involving and problem-solving abilities and capacities (see, e.g. Nussbaum & Putnam, 1992; Kenny, 1989). We might refer to this as Ecological-Organism thinking, in opposition to

dualist thinking, about the mind. The interest is in the whole organism, situated and embedded in, and thus part of, its ecosystem, in opposition to thinking about a body with a mind (dualism one) standing in causal relationship to its world (dualism two).

The reason for this very brief discussion of the history of the idea of the soul or mind in the Western tradition is to emphasise that there's precedent for thinking about our mental capacities in an embodied, embedded, enacted and extended way, which draws on resources which predate Gibson's work on affordances, predate early enactivism which emerged in the 1980s, and which predate the Twentieth Century phenomenology of Heidegger and Merleau-Ponty and the philosophy of Ludwig Wittgenstein. For we might see this 'New Science of the Mind', 4E Cognition, Radical Enactive Cognition and Ecological approaches as, broadly speaking, operative within this alternative Aristotelian monist tradition, in contrast to the Christian and Cartesian inheritance one sees in the representationalist tradition of Cognitive Science.

Just as representational cognitive science is but one way of working within the Cartesian framework, and just as within representationalist accounts there are a number of competing theories, so too for the, broadly-speaking, Aristotelian Monist tradition, or for ecological-organism approaches. What I want to do in what follows is examine contemporary Ecological Psychology as one approach which tries to work within an Aristotelian framework and in doing so I will offer some criticisms from within. For while my own philosophical predilections are, on these terms, broadly Aristotelian, I will suggest that such predilections are not, ultimately, satisfiable by Ecological accounts, including those which incorporate Enactivism (Chemero, 2009), which advance the theory of affordances.[1] Why this is so will pick-up on our argument earlier about the irreducibly-contextual nature of language and the placing of the distinction between pertinent and absurd responses. Ultimately, Ecological Psychology is caught on the horns of a dilemma: retain a rigorous naturalism and fail the absurdity (and abhorrence, and taste, and so on) test. Or, forego naturalism and factor-in ethical and aesthetic concerns into the definition of affordances and you lose the grounds for speaking the language of affordance rather than the language of concepts.

4. Ecological Psychology and the Theory of Affordances

Ecological Psychology was initiated by James Gibson, but has been developed since by a number of authors. Prominent among those authors who have followed Gibson are Harry Heft (Heft, 1988, 2001), Alan Costall (Costall, 1995, 2017) and Anthony Chemero (Chemero, 2003, 2009).

For Gibson, perception is action guiding (that is its function) and it is direct (no processing and no representations). Information is picked-up from the environment in the flow of perception as we move through the environment. Information exists as a product of the relation between, for example, light, surfaces and medium, such that when the light, reflecting off the surfaces and travelling via the medium converges at a specific point (say, the eyes of the perceiver) it provides directly, without the need for any kind of cognitive processing, information about the kinds of action afforded to the perceiver by the features of the environment, given the abilities of the perceiver. This, Gibson proposes, gives us an account of information pick-up which is non-representational, and it draws on a conception of information which is, we might say, sub-propositional. Perception is, therefore, of affordances for behaviour. What is perceived is not objects in the environment, nor the properties of objects in the environment, but rather features of a situation, which includes the perceiver, though those features are not perceiver-dependent, ontologically speaking. For as the perceiver perceives they do so as this perceiver, with these attributes and abilities, located here. The account of information pick-up should provide the basis on which such information specifies affordances: opportunities for behaviour for the perceiver.

The philosophical challenge is this: how do we conceive of this particular, Ecological, mode of responsiveness to loci of significance in the environment, which avoids representationalism, and the invoking of propositional contents, while not collapsing into purely causal accounts, which are content-free? For, it is important not to be distracted by the flush of the new, as it were, into forgetting knotty old problems. There is a question that needs asking of all such accounts, and that question might be represented in the following way: we have a scale, at one end of the

scale we have matter and causal relations only. At the other end of the scale we have conceptually mediated relations which can be represented in language. The conceptually mediated relations thereby afford us the ability to be responsive to the meaning the world has for us, which is irreducible to its purely material structure, affords us the ability to act on reasons, and enables us to offer reasons in support of our actions.

Ecological Psychology seeks to find middle ground. For, if we rely on a conception of information which is propositional, then, the thought is, we open the door to the representationalists. Gibson has already made it clear that this is not an option for him. However, if we go purely causal, in our desire to slam the door on representationalists, we ultimately leave open the back door to the representationalists, because something needs to give content to the causal impacts on our senses. Gibson's theory initiates a programme of research in which those Ecological Psychologists who have followed him have attempted, within the bounds he set, to provide a naturalistic account of perceptual information 'pick-up' in the theory of affordances, which resists a slide into purely causal accounts (because: no information), but which doesn't require the theoretical postulation of representations or cognitive processes (because: information comes at too high cost).

We might put this in Sellarsian terms. Ecological Psychology sets itself the task of finding the middle ground between the kind of intelligibility found operative in the Space of Reasons and that which is operative in the natural sciences, without collapsing into either. While it is tempting to remark: Good luck with that!, let's try to assess the merits of the attempt.

Gibson was, on the assessment of even his most staunch defenders, somewhat sketchy and perhaps even vague when it came to the details of his theory of affordances. Consequently, much of the work of those Ecological Psychologists who have followed has been comprised of providing detailed accounts of affordances. The accounts vary quite radically. One way in which they vary we might state as an ontological dispute between affordances as properties (Reed, 1996; Heft, 2001) and affordances as features (Chemero, 2003). Another point of divergence is between those who remain committed to a strictly naturalist account of affordances (Reed, 1996) and those who open up the account to socialisation and enculturation (Costall, 1995). Of course, depending on where

one goes with this will, to reinvoke our Sellarsian framework, determine whether affordances are subject to the kind of intelligibility belonging to the Space of Reasons or that belonging to the Natural Sciences.

Gibson explicitly aimed for the latter. It was crucial to Gibson, and to many of those theorists of affordances who have followed him, that affordances were located within the space of natural scientific explanation. The problem is that in doing so one restricts quite radically the kind of information that might be considered available to perception.

So, let us consider some examples of perceiving opportunities for behaviour in the environment. Consider climbability. Let us say you are passing through the environment, perhaps on a walk across town and through the park, with a 10 year old child. The child loves to climb, and certain features of the environment (the environment includes you and the child, it is not external to you, on this account), as you pass through it, afford climbability. They do so because of how the abilities of the child serve to bring alive certain aspects of the environmental features which are perceived as affordances of climbability or climbing affordance. There's the 120 cm high dry-stone wall—lots of places for foot and hand holds—but not the 3 metre high brick wall—it's just too high and too smooth. There's the old oak tree, with strong, low and approximately horizontal branches, but not the spruce tree next to it. There's the dedicated climbing wall, with the coloured hand and foot holds, where the colours indicate levels of difficulty, which has been built in the local playground. All of these are the kinds of examples of affordances you will find in the literature and discussed by Ecological Psychologists delivering talks at conferences. They're good examples which afford a rudimentary grasp of the theory of affordances, if you will.

5. The Missing 'E'—Ethical Affordance, Evaluative Perception, Concepts and Affordances as Rhetoric

However, there is something too easy about these examples. There's something missing. Such examples are good for illustrating affordances, and the theory, to the uninitiated, but somewhat partial if we want to estab-

lish a theory of perception and action. One-sided diets of examples are apt to lead us astray. To avoid straying we should always look for the examples which don't quite fit so obviously. So, to this end we might ask what of the statue of Mahatma Gandhi that you pass on the walk across town, or the statue of the Emily Pankhurst? To be sure these both have certain properties that given the body-scale and abilities of your ten-year-old companion would provide excellent climbing opportunities. But do they afford climbability? The question as to whether they do or do not is an ethical question. The Ecological Psychologist has to give an account as to how such ethical considerations can be bracketed-out of our perception of affordances or how they might be included, in a kind of robust, or thick, evaluative perception.

Indeed, let us consider another example, that of affording urine-up-against-ability, or *p-affordance*, for brevity. For various reasons, male humans urinate against vertical surfaces. If one needs to urinate, one looks for a vertical surface to urinate against. There are numerous reasons for this which draw on considerations of hygiene, privacy (in most human cultures), shelter from the effects of wind which otherwise might lead to wearing the urine rather than disposing of it down a drain or into the ground. Is *p-affordance* an affordance in Gibson's sense? It seems to draw upon considerations which quite clearly imply enculturation. Furthermore, as with our examples of climbability, there are unavoidable ethical boundaries here too. It is an unfortunate fact that the doors of closed retail stores in city centres in the UK seem to offer *p-affordance* at certain times of night for people who have reached certain levels of alcohol-induced intoxication, though they don't do so during daylight hours for sober occupants of the same city centre. Similarly, my next door neighbour's Great Dane, Frank, stood stationary on the grass in front of our houses, doesn't offer *p-affordance*, though it is rumoured that for it, prior to a few months of intensive training, stationary children offered *p-affordance*.

The problem these examples present is that any account of affordances needs to have internal to it the grounds for excluding or including such evaluative, normative and ethical considerations. So, including moral evaluation would demand an account of evaluative perception which involves a kind of Aristotelian account of second nature or a Deweyan

account of moral training. While I would be amenable to such accounts, this would take us a long way from Gibson's naturalist account of affordances and stimulus information, provided by light reflecting off surfaces as we move through the environment. Indeed, such a robust, or thick conception of evaluative perception, seems to be unavoidably conceptual and interwoven with enculturation. Again, for a philosopher operating within the Aristotelian tradition this does not of necessity present a problem, we could look to the sort of fieldwork conducted by Ethnomethodologists to bring some light here. However, it does present a problem for the Ecological Psychologist, and for anyone who wants to draw upon the theory of affordances to produce a non-representational approach to cognitive science.

The Ecological Psychologist is caught on the horns of a dilemma. Horn One: remain Gibsonian, even with the kinds of sophisticated adjustments and additions introduced by Chemero in his Dynamical Systems Theory (Chemero, 2009, chap. 7.6) of Affordance, and one has to provide an argument to justify the bracketing-off of the ethical in affordance perception. I'll wait.

Horn Two: Move beyond Gibson, and, as Costall (Costall, 1995) recommends, socialise affordances and, I suggest, you step on to a slippery slope which leads away from affordances and to concepts, and the claim that perception is conceptually mediated. The problem for Costall and those who follow him on this is that the language of affordances becomes little more than a kind of rhetorical gloss, designed to satisfy the naturalists. Indeed, our criticism can go further. Our discussion of Radical Contextualist Philosophy of Language demonstrated that abstracting propositions from their use in language, by people, in contexts amounted to abstraction from the very things that enabled propositions to have sense. Similarly, we would also have to charge our Ecological Psychologist who has socialised affordances. Because in formalising our conceptual capabilities and rendering them theoretically as affordances, instead of carefully describing them, the Ecological Psychologist abstracts from that—our concepts—through which we come to register and respond to loci of significance in our environment.

6. Conclusion

The issue might be stated as follows: it isn't all about externalism, either content or 'process'. The issues run deeper than that. Whether you're a radical externalist, non-representationalist like Chemero (and Hutto and Myin), a centrist like Clark, or a conservative representationalist like Dretske and the early (circa 2003) Jesse Prinz there is still an aspect of the philosophical critique of cognitive science, which one can find in phenomenologically-informed critiques and Wittgenstein-informed and influenced critiques, not-to-mention Ethnomethodological critiques, to which these non-representational accounts are exposed just as are representationalist accounts. Put another way, the problem isn't just about representations and internalism.

We are responsive to loci of significance in our environment, and we need to be honest about what is packed in to the term 'significance'. To reinvoke the sliding scale introduced in the previous section:

- if we locate ourselves too far to one end of the scale, we simply cannot give an adequate account of the nature of that significance, because we're trying to account for significance, which can be evaluative, even ethical, in purely causal terms. In Sellarsian terms, we remain, at best, trapped in the space of natural scientific explanation, and at worst, we fall for the Myth of the Given, unable to account for our ability to act on reasons, offer reasons for actions and account for the evaluative practices that permeate our existence and shape our world, including ethical practices.
- If we shift to the other end of the scale, then accounting for our ability to act on reasons, offer reasons for actions and the evaluative practices that permeate our existence, including moral practices, seems to demand that we have linguistic capacities and the ability to form propositions. This seems too strong-a-demand, and it was certainly unacceptable to Gibson.

Enactivists and Ecological Psychologists have tried to find the middle ground, by rejecting representationalism and going outer. What I've tried to show here is that, in the case of Ecological Psychology, the problem I've here stated with reference to Sellars, actually remains, only now reframed

as a debate about how to conceive of, or which is the best theory of, affordances. It is, however, the same problem. Ecological Psychology and the theory of affordances is not a solution to the problem outlined by Sellars, but is a reframing of it. We are still left with the puzzle as to how to account for our distinctive responsiveness to loci of significance in the environment which does not, in pursuit of the goal, destroy or dismantle the very phenomena we're trying to explain. For as the radical contextualist philosophers of language showed how representationalism renders our language incapable of playing the normative, evaluative and, indeed, the representational role it does in our lives by abstracting the proposition from its uses by members of social orders, in contexts and on occasions, so Ecological Psychologists render our perceptual capacities incapable of playing the role they do in our lives such that we perceive, are responsive to and act on norms and values as these are interwoven in to the features of events, and they do so by abstracting 'perception' from our conceptual capacities and treating it theoretically for their own formal analytic purposes.

Of course, some Ecological Psychologists are aware of the limits their formal-analytic abstractions have imposed, and so, like Costall, they seek to mitigate the damage. The consequences of moves, such as those made by Costall, is that they unwittingly demonstrate the extent to which it is the very language, the formal-analytic, theoretical language, of affordances that generates the problem to which they are now seeking a solution. For, if we instead forgo the theory and look, really look, at humans as members of social orders interacting with each other and the world, in social settings, and describe what we see in the language available to those members then we will resist the pitfalls of abstraction, and have a particularist account of the human capacity to be responsive to loci of significance in their environment, which captures the normative, evaluative and ethical richness of our lives.

Note

1. It should also be noted that I don't believe that Aristotelian monistic predilections were or can be satisfied by a return to the substance of Aristotle's own account. He initiates this tradition, or at least he is one of the early

towering figures in Western monism, but his own arguments are too metaphysical to be satisfactory. The Aristotelian monist tradition needs completing by drawing upon Wittgensteinian and Ethnomethodological insights, in my view. But that, as they say, is for another time.

References

Barrett, L. (2011). *Beyond the Brain: How Body and Environment Shape Animal and Human Minds*. Princeton, NJ: Princeton University Press.

Barrett, L. (2018). Picturing Primates and Looking at Monkeys: Why 21st Century Primatology Needs Wittgenstein. *Philosophical Investigations, 41*(2), 1–27.

Baz, A. (2012). *When Words are Called For*. Cambridge, MA: Harvard University Press.

Brooks, R. A. (1999). *Cambrian Intelligence*. Cambridge, MA: MIT Press.

Chemero, A. (2003). An Outline of a Theory of Affordances. *Ecological Psychology, 15*(2), 181–195.

Chemero, A. (2009). *Radical Embodied Cognitive Science*. Cambridge, MA: MIT Press. https://doi.org/10.1016/B978-012601730-4/50004-4

Costall, A. (1995). Socializing Affordances. *Theory & Psychology, 5*(4), 467–481.

Costall, A. (2003). Book Review of Heft, Harry—Ecological Psychology in Context. *Journal of the History of the Behavioral Sciences, 39*(3), 320–322.

Costall, A. (2017). 1966 and All That: James Gibson and Bottom-Down Theory. *Ecological Psychology, 29*(3), 221–230.

Di Paolo, E. (2003). Organismically-Inspired Robotics: Homeostatic Adaptation and Teleology Beyond the Closed Sensorimotor Loop. In K. Murase, & T. Asakura (Eds.), *Dynamical Systems Approach to Embodiment and Sociality*. Adelaide: Advanced Knowledge International. Retrieved from https://www.researchgate.net/publication/250397907_Organismicallyinspired_robotics_homeostatic_adaptation_and_teleology_beyond_the_closed_sensorimotor_loop

Ebersole, F. B. (2002). *Meaning and Saying: Essays in the Philosophy of Language* (2nd ed.). Bloomington, IN: Xlibris.

Gibson, J. J. (1979). *The Ecological Approach to Visual Perception*. New York: The Psychology Press.

Glotzbach, P. A., & Heft, H. (1982). Ecological and Phenomenological Contributions to the Psychology of Perception. *Nous, 16*(1), 108–121.

Heft, H. (1988). The Development of Gibson's Ecological Approach to Perception. *Journal of Environmental Psychology, 8*(4), 325–334.
Heft, H. (1989). Affordances and the Body—An Intentional Analysis of Gibson Ecological Approach to Visual-Perception. *Journal for the Theory of Social Behaviour, 19*(1), 1–30.
Heft, H. (2001). *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism*. London: Lawrence Erlbaum Associates.
Hertzberg, L. (2001). The Sense is Where You Find It (Complete Version). In T. G. McCarthy & S. C. Stidd (Eds.), *Wittgenstein in America* (pp. 90–103). Oxford: Oxford University Press. Retrieved from http://web.abo.fi/fak/hf/filosofi/Staff/lhertzbe/Text/The_Sense_Is_Where_You_Find_It.pdf
Hufendiek, R. (2016). *Embodied Emotions: A Naturalist Approach to a Normative Phenomenon*. London: Routledge.
Hutto, D. D. (2013). Enactivism, from a Wittgensteinian Point of View. *American Philosophical Quarterly, 50*(3), 281–302.
Hutto, D. D., & Myin, E. (2013). *Radicalizing Enactivism: Basic Minds Without Content*. Cambridge, MA: MIT Press.
Kenny, A. (1989). *The Metaphysics of Mind*. Oxford: Oxford University Press.
Lakoff, G., & Johnson, M. (1999). *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. Basic Books.
Lakoff, G., & Johnson, M. (2003). *Metaphors We Live By* (2nd ed.). Chicago: University of Chicago Press.
Menary, R. (2010). Introduction to the Special Issue on 4E Cognition. *Phenomenology and the Cognitive Sciences, 9*(4), 459–463.
Nussbaum, M. C., & Putnam, H. (1992). Changing Aristotle's Mind. In M. C. Nussbaum & A. Oksenberg Rorty (Eds.), *Essays on Aristotle's De Anima* (pp. 27–56). New York: Oxford University Press.
Prinz, J. J. (2003). Emotion, Psychosemantics, and Embodied Appraisals. *Philosophy and the Emotions: Royal Institute of Philosophy Supplement, 52*, 69–86.
Putnam, H. (1992). Responses. In Hill, Christopher (Ed.), The Philosophy of Hilary Putnam. *Philosophical Topics, 20*(1), 347–408.
Reed, E. S. (1996). *Encountering the World*. Oxford: Oxford University Press.
Rowlands, M. (2002). *Externalism: Putting Mind and World Back Together Again*. Chesham: Acumen.
Rowlands, M. (2010). *The New Science of the Mind: From Extended Mind to Embodied Phenomenology*. Cambridge, MA: MIT Press.

Shargel, D., & Prinz, J. J. (2018). An Enactivist Theory of Emotional Content. In N. Hichem & F. Teroni (Eds.), *The Ontology of Emotions* (pp. 110–129). Cambridge: Cambridge University Press.

Stewart, J., Gapenne, O., & Di Paolo, E. (Eds.). (2010). *Enaction: Toward a New Paradigm for Cognitive Science*. Cambridge, MA: MIT Press.

Travis, C. (1989). *The Uses of Sense*. Oxford: Oxford University Press.

Travis, C. (2008). *Occasion-Sensitivity*. Oxford: Oxford University Press.

Van Dijk, L., Withagen, R., & Bongers, R. M. (2015). Information without Content: A Gibsonian Reply to Enactivists Worries. *Cognition, 134*, 210–214.

Varela, F. J., Thompson, E., & Rosch, E. (1991). *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: MIT Press.

Wheeler, M. (2005). *Reconstructing the Cognitive World: The Next Step*. Cambridge, MA: MIT Press.

Wittgenstein, L. (2009). *Philosophical Investigations* (P. M. S. Hacker & J. Schulte, Ed., G. E. M. Anscombe, P. M. S. Hacker, & J. Schulte, Trans.). Chichester: Wiley-Blackwell.